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UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/542,562	04/04/2000	CESAR BANDERA	ML-0495CV	5137

7590 04/25/2005	**EXAMINER**
Kenneth J. LuKacher	HENN, TIMOTHY J
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ART UNIT	PAPER NUMBER
2612	

Suite 304
Rochester, NY 14623

DATE MAILED: 04/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _25 October 2004_.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-3 and 5-31_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-3 and 5-31_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _04 April 2000_ is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Response to Arguments

1.   Applicant's arguments filed 25 October 2004 have been fully considered but they

are not persuasive.

In response to the rejections based on the Wilder '871 reference, the applicant

argues that Wilder can not produce overlapping windows without requiring multiple

readout from the sensor. While this may be the case, it is noted that the claims do not

require the multiple overlapping windows to be output simultaneously or read out using

a single operation, and instead merely requires windows which are "capable of

overlapping in said frame". As the applicant recognizes, Wilder's design allows for

readout of multiple regions of interest at different times (i.e. different fields) and

therefore meets the limitations of claim 1, as broadly as claimed. Although the claims

are interpreted in light of the specification, limitations from the specification are not read

into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir.

1993).

The applicant further argues that Wilder does not disclose a computer system

sending signals representing window request commands to a controlling means.

However, Wilder clearly discloses a computer (Figure 1, Item 18) which sends

commands controlling the readout mode of the sensor (c. 4, l. 45 - c. 5, l. 11) to

controlling means (Figure 1, Items 12 and 14) as claimed. Since the commands sent by

the computer determine the window(s) which is output by the sensor, they are inherently

"window request commands" as claimed. Therefore, applicants arguments are not

considered persuasive.

Claim Rejections - 35 USC § 102

2.   The text of those sections of Title 35, U.S. Code not included in this action can

be found in a prior Office action.

3.   Claims 1-3, 6, 8, 10-12, 16, 17, 20, 21, , 24, 25, 28, 29 and 31 are rejected under

35 U.S.C. 102(b) as being anticipated by Wilder et al. (US 5,262,871).

[claim 1]

In regard to claim 1, note that Wilder et al. discloses a vision system for imaging

a scene using a dynamically reconfigurable photodetector array (Figure 1, Item 10)

comprising: a video camera (Figure 1) having at least one reconfigurable photodetector

array capable of imaging a scene (Figure 1, Item 10); means for controlling

characteristics (i.e. which pixels will be read-out and what resolution the array will be

read-out at) of imaging by the photodetector array (Figure 1, Items 12 and 14); and a

computer system for receiving signals from the photodetector array representing the

scene imaged by the photodetector array and sending signals to the controlling means

to configure the characteristics of imaging by the photodetector (Figure 1, Item 18;

Column4, Line 45 - Column 5, Line 11). However, Wilder et al. does not specifically

discloses a system wherein two or more of the windows overlap in said frame. It is

noted that Wilder et al. discloses that the readout can be performed on "any region or

regions of the image sensor" (Column 6, Lines 41-44). As recognized by the applicant

(see remarks, page 6) Wilder is capable of outputting overlapping windows which are read out at different times (i.e. fields). Therefore, the windows of Wilder are inherently "capable of overlapping" as claimed.

[claim 2]

In regard to claim 2, note that Wilder et al. discloses a photodetector array that provides signals representing a frame with one or more regions of interest or "windows" having pixels (Column 6, Lines 3-46, specifically the "multiple region of interest" mode).

[claim 3]

In regard to claim 3, note that Wilder et al. discloses a photodetector array that further comprises means for controlling the resolution of the pixels in each of the regions of interest or "windows" (Column 6, Lines 3-46; specifically the "combination of both the VR and MRI" mode).

[claim 6]

In regard to claim 6, note that Wilder et al. discloses controlling means which represent a controller located on the photodetector array (Figure 2; Column 5, Lines 23-65).

[claim 8]

In regard to claim 8, note that Wilder et al. discloses a system wherein the computer system is integrated into the video camera (Figure 1).

[claim 10]

In regard to claim 10, note that Wilder et al. discloses a computer system that sends signals to the controlling means representing window request commands that

contain information used to dynamically reconfigured one or more of the photodetector

array's imaging characteristics (Column 4, Line 45 - Column 5, Line 11).

[claim 11]

In regard to claim 11, note that Wilder et al. discloses characteristics which

represent spatial (i.e. resolution) and temporal (i.e. when the pixels will be read-out)

parameters (Column 4, Line 67 - Column 5, Line 11). ·

[claim 12]

In regard to claim 12, note that Wilder et al. discloses a photodetector array that

contains a plurality of pixels that have fixed dimensions (Column 19, Lines 1-13).

[claim 16]

In regard to claim 16, note that Wilder et al. discloses a system wherein said

computer system and said video camera are part of a closed-loop interactive system

(Figure 1).

[claim 17]

In regard to claim 17, note that Wilder et al. discloses a computer system which

is capable of analyzing video imagery for target objects and determining the necessary

position, size, shape, resolution and frame rate of multiple, overlapping windows within

the vision system's field of view (Column 6, Lines 48-64).

[claim 20]

In regard to claim 20, note that Wilder et al. further discloses means for

generating a window request command to the video camera identifying the

characteristics (Column 4, Line 45 - Column 5, Line 11).

[claim 21]

In regard to claim 21, note that Wilder et al. further discloses means for

generating a window request command to the video camera identifying the

characteristics, in which the characteristics represent a position, size, shape, resolution

and frame rate of multiple windows (Column 4, Line 45 - Column 6, Line 64).

[claim 24]

In regard to claim 24, as recognized by the applicant Wilder allows for readout of

overlapping windows at separate times. It is noted that since these readout occur

independently, they are inherently "non-destructive" as claimed.

[claim 25]

In regard to claim 25, Wilder discloses multiple windows which are of the same or

different resolutions (c. 6, ll. 40-44).

[claim 28]

Regarding claim 28, Wilder teaches a system for imaging comprising: at least

one photodetector array capable of imaging successive frames in which each frame has

windows of pixels at a low resolution (Figure 1, Item 10; Figure 2); and means for

controlling the resolution of one or more windows of the frame (Figure 1, Item 18; c. 2, l.

49-61; c. 4, l. 45 - c. 6, l. 64). The examiner notes that the remaining limitations of claim

28 are intended use limitations and reminds the applicant that apparatus claims must be

distinguishable from the prior art in terms of structure rather than function (see MPEP

§2114).

[claim 29]

Regarding claim 30, Wilder teaches creating windows for regions of interest for

use in search and tracking operations (c. 2, ll. 49-61). The examiner notes that when

tracking an object the windows would inherently be "time-correlated frame-by-frame with

the location of said one or more objects" as claimed.

[claim 31]

Regarding claim 31, the windows of Wilder are "capable of overlapping each

other" as claimed (see response to arguments).

Claim Rejections - 35 USC § 103

4.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

5.   Claims 5 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Wilder et al. (US 5,262,871) in view of Yoshimura et al. (US 6,556,241).

[claim 5]

In regard to claim 5, Wilder et al. discloses a system, which meets the

requirements as set forth in claim 1 as discussed above. Therefore, it can be seen that

Wilder et al. lacks a system, which further comprises a client-server interface between

said computer system and said controlling means. Yoshimura et al. discloses a remote-

controlled camera picture broadcast system in which a client-server interface exists

between a client computer and the camera controller so that users can control the

camera system from a remote location (Abstract). It would have been obvious to one of

ordinary skill in the art at the time the invention was made to combine the remote control

of Yoshimura et al. with the system of Wilder et al. to allow a client-server relationship

between the computer system and the controlling means so that the camera can be

controlled remotely.

[claim 9]

In regard to claim 9, Wilder et al. discloses a system, which meets the

requirements as set forth in claim 1 as discussed above. Therefore, it can be seen that

Wilder et al. lacks a system, which further comprises a computer system that is

separate from the video camera. Yoshimura et al. discloses a remote-controlled

camera picture broadcast system in which a client-server interface exists between a

client computer and the camera controller so that users can control the camera system

from a remote location (Abstract). It would have been obvious to one of ordinary skill in

the art at the time the invention was made to combine the remote control of Yoshimura

et al. with the system of Wilder et al. to allow a computer to be separately located from

the camera so that the camera can be controlled remotely.

6.   Claims 7, 13, 19, 22 and 23 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Wilder et al. (US 5,262,871).

[claim 7]

In regard to claim 7, Wilder et al. discloses a system, which meets the requirements as set forth in claim 1 as discussed above. Therefore, it can be seen that Wilder et al. lacks a system in which said controlling means represents a logic device separate from said photodetector array. However, it is well known in the electronics art that control circuitry can be either integrated on the same chip or made separate as a different chip so long as the two chips remain in electrical contact with each other (Official Notice). Therefore, It would have been obvious to one of ordinary skill in the art at the time the invention was made to move the control circuitry for the photodetector array onto a separate chip in order to be able to replace one device without the added cost of replacing the other.

[claim 13]

In regard to claim 13, Wilder et al. discloses a system, which meets the requirements as set forth in claim 1 as discussed above. It is further noted that Wilder discloses a system which uses a CMOS photodetector (Column 18, Lines 36-43). Therefore, it can be seen that Wilder et al. lacks a system including a photodetector which is responsive to radiation in the visible spectral range. However, it is well known in the art to use photodetectors which is responsive to radiation in the visible spectral range to reproduce scenes as they would have been seen to a human viewer (Official Notice). Therefore, It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the CMOS photodetector of Wilder et al. responsive to radiation in the visible spectral range to reproduce images as they would

have been seen by a human viewer.

[claim 19]

In regard to claim 19, Wilder et al. discloses a system, which meets the

requirements as set forth in claim 2 as discussed above. Therefore, it can be seen that

Wilder et al. lacks a system wherein said computer system further comprises a user

interface enabling a human operator to analyze video imagery for target objects and

determine the necessary position, size, shape, resolution, frame rate and spectral

content of multiple windows within said visions system's field of view. However, it is

well known in the image recognition art that computer artificial intelligence is not as

good as human intelligence when it comes to determining complex patterns in images

(Official Notice). Therefore, It would have been obvious to one of ordinary skill in the art

at the time the invention was made to use a human being to analyze video imagery for

target objects as claimed to avoid false negatives and false positives in object tracking

determinations.

[claim 22]

In regard to claim 22, note that Wilder et al. discloses a method of tracking

objects in a scene comprising a frame of windows comprising the steps of locating at

least one object to be tracked in one of the windows in a low resolution (Column 6,

Lines 48-57); and forming one or more windows having the object in a high resolution

(Column 6, Lines 55-59) which are capable of overlapping each other and overlapping

said one ore more of said windows at said low resolution (as noted in claim 1 and the

response to arguments, Wilder is "capable" of outputting overlapping windows through

separate readouts, as the claims do not require simultaneous readout as argued by the

applicant, Wilder meets the limitations). Therefore, it can be seen that Wilder et al.

lacks a tracking method which identifies the object in the windows of high resolution.

However, it is well known in tracking systems to identify objects which are being tracked

in order to determine whether further actions need to carried out (Official Notice).

Therefore, It would have been obvious to one of ordinary skill in the art at the time the

invention was made to identify the object being tracked in the high resolution windows

of Wilder et al. to determine whether further actions need to be carried out.

[claim 23]

In regard to claim 23, note that Wilder et al. discloses a system creates windows

of high resolution for each region of interest or "target" (Column 6, Lines 55-59).

7.   Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wilder et

al. (US 5,262,871) in view of Kimata (US 5,095,211).

[claim 14]

In regard to claim 14, Wilder et al. discloses a system, which meets the

requirements as set forth in claim 1 as discussed above. Therefore, it can be seen that

Wilder et al. lacks a system wherein said photodetector array represents a device

responsive to infrared wavelengths. Kimata discloses an infrared image sensor, which

is responsive to infrared wavelengths, and thereby capable of detecting objects that

conventional visible light image sensors may miss. It would have been obvious to one of

ordinary skill in the art at the time the invention was made to use the infrared image

sensor of Kimata with the system of Wilder et al. so as to detect objects using infrared

which conventional visible light image sensors may miss.

8.   Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wilder et

al. (US 5,262,871) in view of Fossum et al (US 5,236,871).

[claim 15]

In regard to claim 15, Wilder et al. discloses a system, which meets the

requirements as set forth in claim 1 as discussed above. Therefore, it can be seen that

Wilder et al. lacks a system wherein said photodetector array is bonded to a

complementary metal oxide semiconductor read-out integrated circuit. Fossum et al.

teaches a photodetector array which is bonded onto an integrated read-out circuit so as

to use the proper material for optimum performance of the photodetector and read-out

circuit individually (Abstract; Figure 5), it is also noted that Fossum et al. uses a CMOS

circuit for their read-out circuit (Column 5, Lines 12-22). It would have been obvious to

one of ordinary skill in the art at the time the invention was made to use the

photodetector array of Fossum et al. to be able to individually choose the proper

material for both the photodetector array and read-out circuit.

9.   Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wilder et

al. (US 5,262,871) in view of Chao et al. (US 5,216,484).

[claim 18]

In regard to claim 18, Wilder et al. discloses a system, which meets the requirements as set forth in claim 1 as discussed above. Therefore, it can be seen that Wilder et al. lacks a system wherein said computer system is capable of determining the spectral signatures of said target object. Chao et al. discloses a real-time imaging spectrometer with an image sensor and computer which is capable of determining spectral signatures of objects for the purpose of remote observation and sorting of materials (Column 3, Lines 55-60; Figure 1). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the functionality of Chao et al. with the image sensor and computer system of Wilder et al. to allow Wilder et al. to determine spectral signatures for the purpose of remote observation and sorting of materials.

10.   Claims 26, 27 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wilder et la. (US 5,262,871) in view of Fossum et al. (US 5,949,483).

[claim 26]

Regarding claim 26, Wilder teaches all limitations with the exception of controlling window resolution by averaging pixels. However, Fossum teaches that window resolution can be changed through block averaging which further allows the user of noise reduction techniques (c. 4, ll. 22-39). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use block averaging to change the resolution of the windows as taught by Fossum.

[claim 27]

Regarding claim 27, Wilder teaches all limitations with the exception of controlling window resolution by averaging pixels. However, Fossum teaches that window resolution can be changed through block averaging which further allows the user of noise reduction techniques (c. 4, II. 22-39). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use block averaging to change the resolution of the windows as taught by Fossum.

[claim 29]

Regarding claim 29, Wilder teaches all limitations with the exception of controlling window resolution by averaging pixels. However, Fossum teaches that window resolution can be changed through block averaging which further allows the user of noise reduction techniques (c. 4, II. 22-39). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use block averaging to change the resolution of the windows as taught by Fossum.

Conclusion

11.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following further shows the current state of the art in imaging systems using windowing operations:

i.   Yang et al.   US 6,839,452

12.   Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37

CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Timothy J Henn whose telephone number is (571) 272-

7310. The examiner can normally be reached on M-F 9:00 AM - 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Wendy R Garber can be reached on (571) 272-7308. The fax phone

number for the organization where this application or proceeding is assigned is 703-

872-9306.

Information regarding the status of an application may be obtained from the

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TJH
4/13/2005

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